

Data Discovery based on OpenSearch

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w/contributions from:

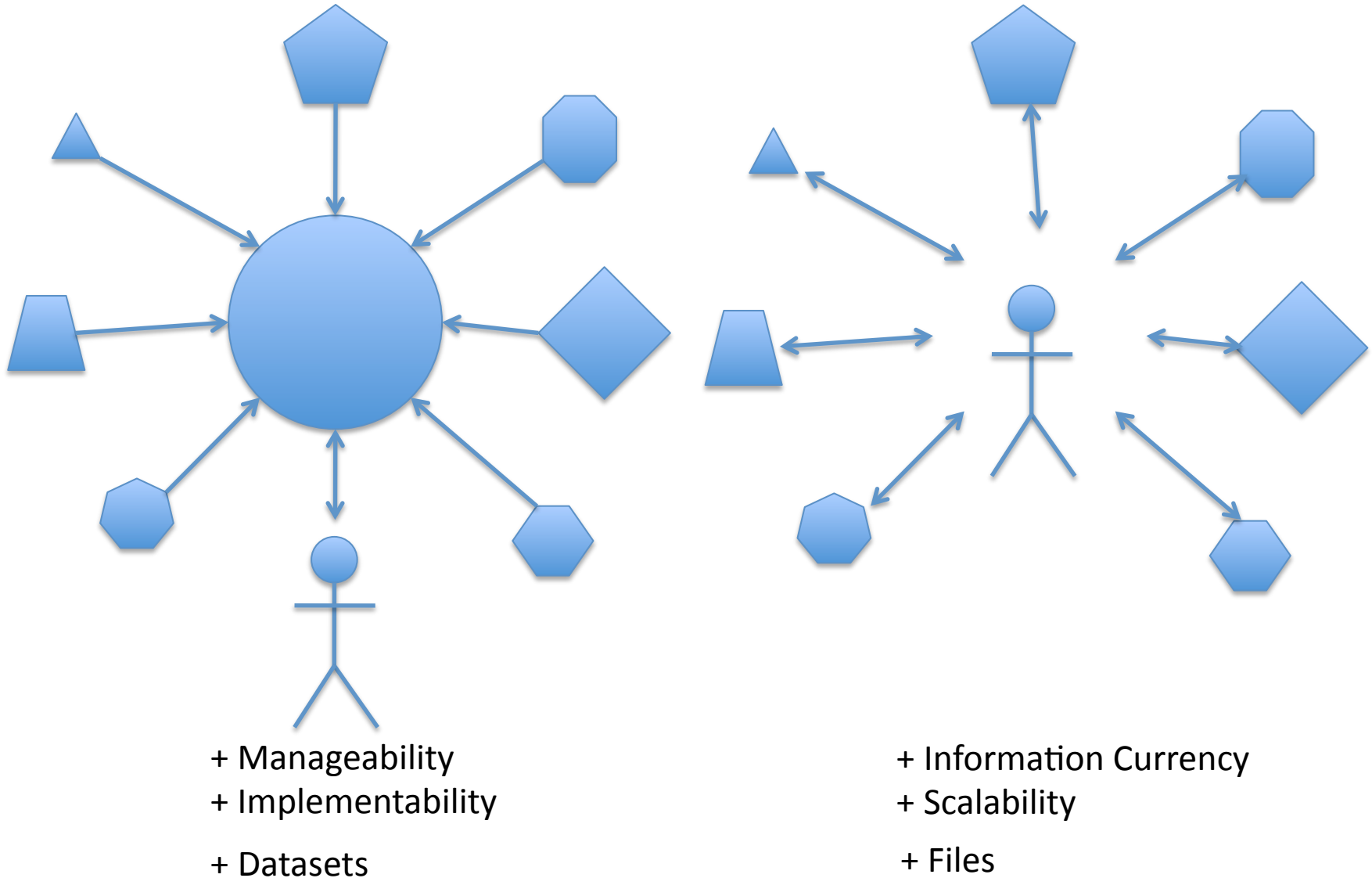
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Finding Earth Science Data: Why So Difficult?

- Why can't I find any applicable data meeting my space-time-content needs, wherever it is?
- Why can't I find and get the data from within my analysis tool?

Centralized vs. Distributed



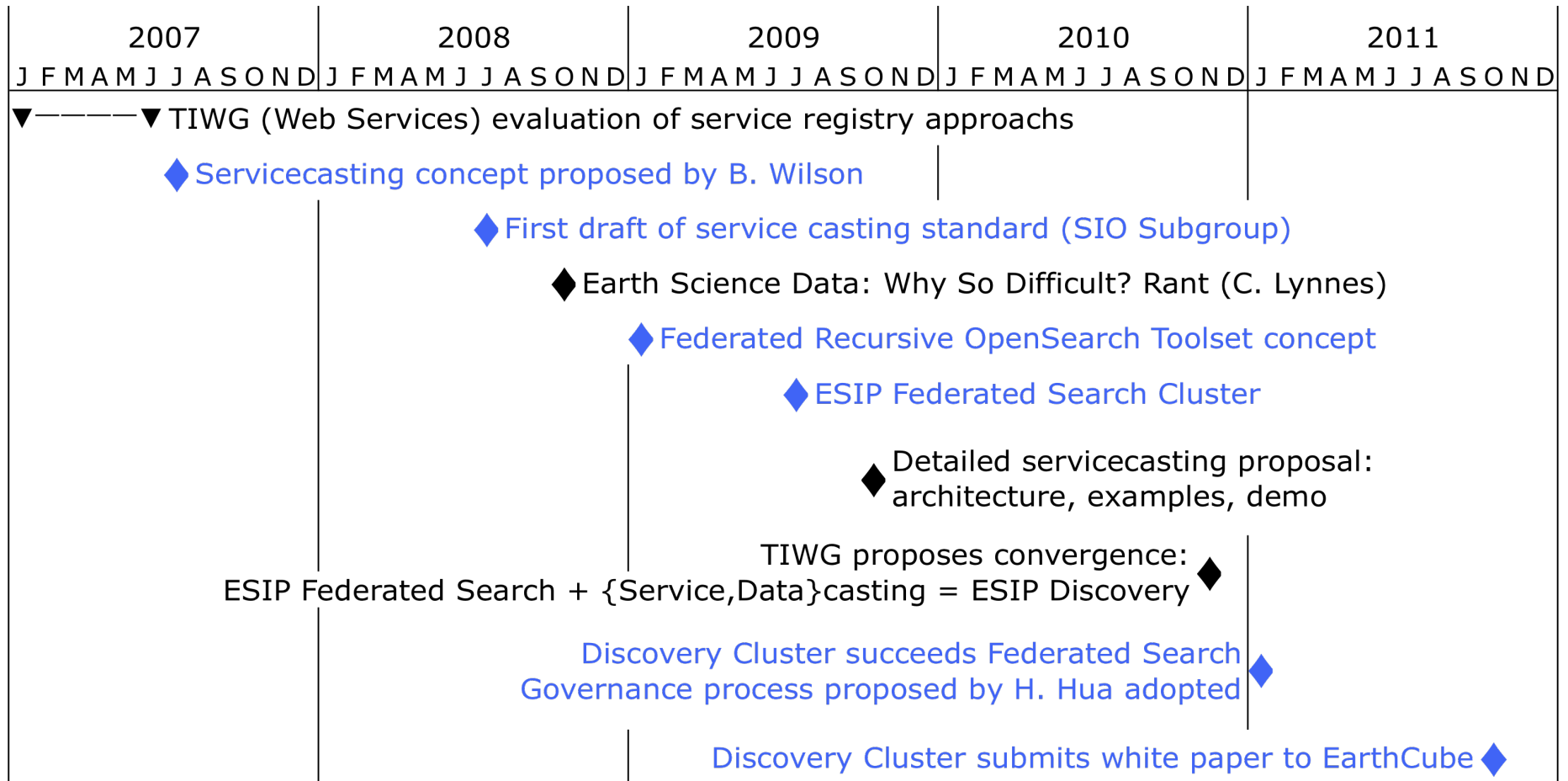
OpenSearch: a Simple Approach to Federated (Distributed) Search

- Developed by Amazon (A9)
- Key to interoperability: the OpenSearch Description Document
- `<OpenSearchDescription>`
 `<ShortName>IMDb</ShortName>`
 `<Description>Internet Movie Database - Search titles, actors names`
 `and character names</Description>`
 `<Image height="16" width="16" type="image/x-icon">`
 `http://imdb.com/favicon.ico</Image>`
 `<Url type="text/html" method="get"`
 `template="http://www.imdb.com/find?s=all;q={searchTerms}"/>`
 `</OpenSearchDescription>`
- Draft OpenSearch extensions for time and space

ESIP Adaptation of OpenSearch

- ESIP specification and proof of concept of a two-step recursive search for datasets followed by granules
 - Dataset search returns links to OpenSearch Description Documents for granule-search
- Results are returned as an Atom Response in ESIP Federated Search...
- ...which was also the standard for servicecasting

OpenSearch-Based Discovery Timeline



OpenSearch Implementations!

Servers

ECHO
GES DISC Mirador
MODAPS Web Svcs
NSIDC
OMI SIPS
ORNL DAAC THREDDS
UAH Hydro
WS-NEWS

ESRI Geoportal

ESSI GI-Cat

Clients

Search

Mercury
(ORNL)

Noesis
(UAH)

Mirador
(GES DISC)

XSLT
(GES DISC)

Access

Data::Downloader
(OMI SIPS)

Event-Driven
Data Delivery
(UAH)

Libre portal
(NSIDC)

SCS3*
(UAH)

Simple Subset Wizard
(EOSDIS)

Analysis

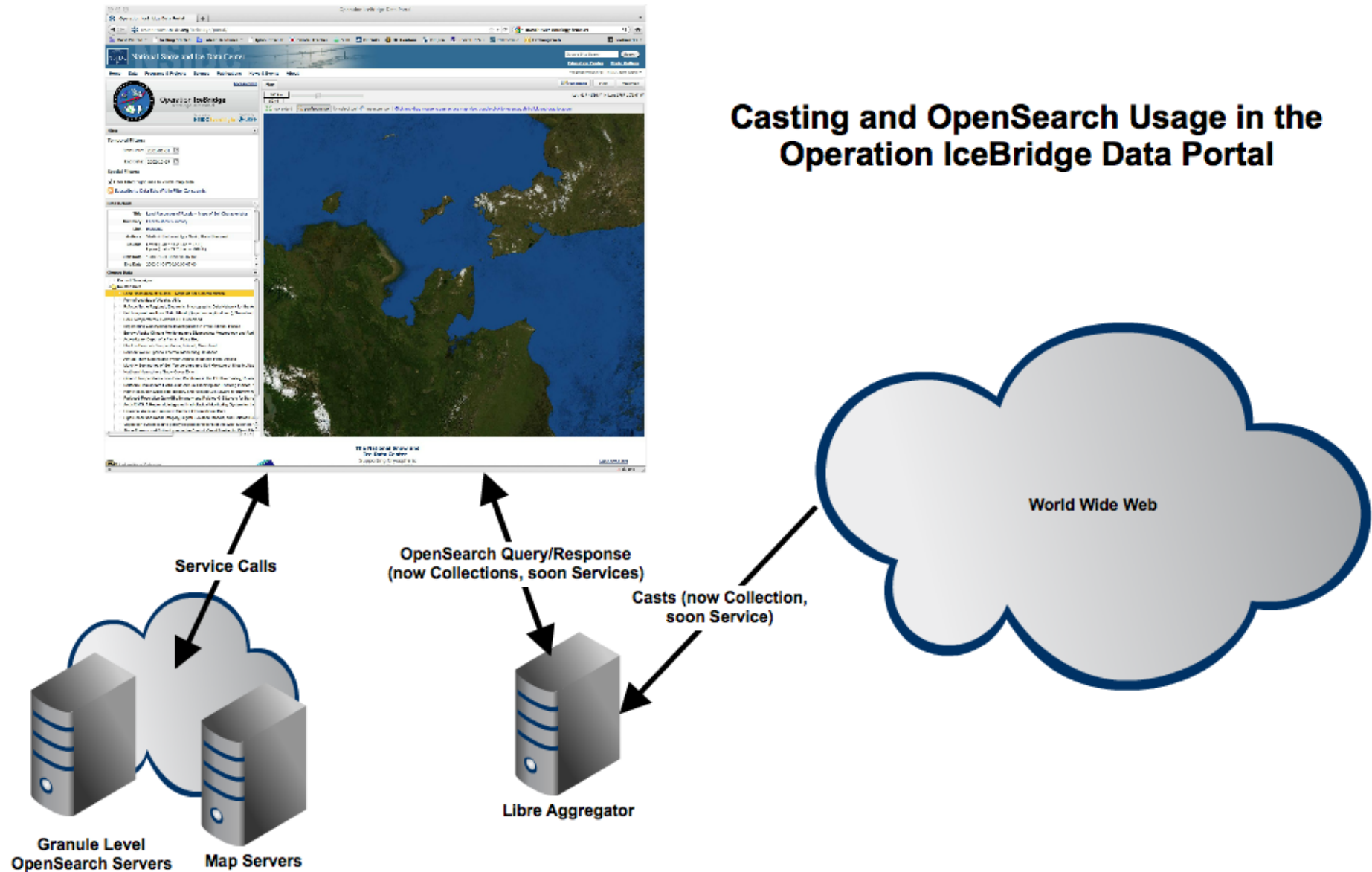
Giovanni
(GES DISC)

IOOS Coastal
Modeling
Testbed (UAH)

Talkoot
(UAH)

*Satellite Coincident Search Subscription Service

OpenSearch + Casting Mash-up @ NSIDC



To Do List

- Add access to OPeNDAP and other services to response spec. (in progress)
- Define error handling protocol
- Converge with other efforts
 - OGC OpenSearch (in progress?)
 - Non-ESIP implementations?
- Add more query parameters
- Add semantics
- Etc. etc. etc.
- *Oh, yeah, almost forgot: write an RFC for SPG*